

(3)

(d) Drugs for medical treatment

Our chemical and scientific techniques to be used for the purpose of producing drugs.

(7) Number of Employees (On May 1st, 1946)

	Staffs	Works <sup>ev</sup>	Total
Male	664	2,554	3,218
Female	148	772	920
Total	812	3,326	4,138

(8) Holding materials & future necessary materials

Name of articles	Monthly Prod'n.	Principal raw materials		
		Name	Holding	Future necessary materials/month
<b>(a) Parts of railroad wagons</b>				
Ventilators	500 pcs.	Steel material	12 tons	2.4 Tons
Flanges	500 "	"	1 ton	0.3 ton
Gear cases	300 "	"	2 tons	0.7 "
<b>(b) Agricultural tools &amp; <del>work</del> machines</b>				
Rice-hackles	30 sets	( Steel material	0.7 ton	0.23 ton
		( Lumber now in provision		420 (Koku)
Hoes & mattocks	1,000 pcs	( Steel material	3 tons	0.6 ton
		( Lumber now in provision		20 (Koku)
<b>(c) Lead works</b>				
Plates	15 tons	} Lead scrap } 61 tons		16.5 tons
Pipes & tubes	10 "			11.0 "
Sinkers (for fishing)	0.5 ton			0.55 ton
Fuse	0.05 "			0.055 "
Accessories of Rayon Sp. M/cs	2.5 "			2.75 tons



(4)

d) Drugs for medical treatment

Thianthol	1 ton	( <sup>m</sup> Tolnol	5 tons	2 tons
		(Sulphur	2 "	0.9 ton
		(Aluminium oxide	10 "	0.2 "
Calcium sulphides	20 tons	(Quick lime	20 "	2 tons
		(Sulphur	8 "	4 "
Magnesium sulphate	2 "	Crude mag <sup>m</sup> nesium sulphate	10 "	2.8 "
Aluminium sulphate	0.5 ton	Crude aluminium sulphate	8 "	1.5 "

(9) Certification by applicant

I certify that the information contained herewith is true to the best of my knowledge and belief.

TOYO RAYON CO.

DIRECTOR



HEADQUARTERS SIXTH ARMY  
MILITARY GOVERNMENT SECTIONAPO 442  
Date: 30th Nov., 1945

File: MG 153

SUBJECT: Permit for Reconversion from War Production and for  
Resumption of Production of Essential Civilian Commodities.TO : Toyo Rayon Kaisha, Ltd., Shiga Factory.  
(Name & Address of Firm)46 Ishiyama Kitagji-cho, Otsu, Shigaken.

1. In accordance with the provisions of paragraphs 3 a and 3 b of Directive No.3 from the Supreme Commander for the Allied Powers, dated 22 September 1945; Memorandum for the Imperial Japanese Government, Subject: Reconversion of War Production Plants to Peacetime Production, dated 28 October 1945; and under authority granted this Headquarters by CINCAFPAC Radio ZAX 6197 dated 3 October 1945, you are authorized to commence operation of your plant, and to manufacture the essential civilian commodities listed in Annex No.1 to this permit.

2. This permit grants authority only to operate. The acquisition of materials, parts, and sub-assemblies, as well as the disposition of finished products and establishment of sales prices, will be in accord with the regulations of the Imperial Japanese Government.

3. At the end of the first month of operation, and at the end of each three-month period thereafter, until notified to the contrary by this Headquarters a report will be made to the Commanding General I Corp, Headquarters Osaka, Attention: Military Government Section. This report will be written in English and will list each item, by name, type, and quantity produced by each factory, subsidiary, or sub-contractor operating under the provisions of this permit. This report will be delivered to Corps Headquarters not later than fifteen (15) days after the conclusion of the period to which the report pertains.

GEORGE D. BEARS  
Colonel, Infantry  
Military Government OfficerInfo. Copies To:GHQ, SCAP (Attn: E. & S. Sec.)  
CG I Corps, (Attn: MG Sec.)  
Imperial Japanese Gov't.  
(6th Army Jap. Liaison Office, Kyoto)I Encl:  
Annex No.1



HEADQUARTERS SIXTH ARMY  
MILITARY GOVERNMENT SECTION  
APO 442

30th Nov.  
~~Nov. 30th, 1945~~

ANNEX NO. 1

Permission is granted to Toyo Rayon Kaisha, Ltd., Shiga Factory, 46 Ishiyama Kitaoji-cho, Otsu, Shigaken to produce the following items listed below :

- a. Textile machines and accessories.
  - b. Accessories and fittings for rayon production.
  - c. Rayon yarn.
  - d. Staple fibre.
  - e. Sulphuric acid.
  - f. Synthetic resin.
  - g. Repair of railroad equipment and trucks.
- 

(Nothing Follows)

D. S. LOCKIE  
1st Lt. F. D.



PRODUCTION SINCE PERMISSION WAS GRANTED  
(Dec., 1945 - May, 1946)

Name of Articles	Unit	Dec., 1945	Jan., 1946	Feb., 1946	March, 1946	April, 1946	May 1946
Rayon Yarn	lbs	60,900	-	-	20,100	91,300	132,130
Rayon Staple F.	"	-	-	-	-	-	-
Sulphuric Acid (100 %)	Kgs.	747,850	136,034	455,493	-	-	94,021
Synthetic Resin	"	-	396	-	-	-	20
Fishing gut (made of synthetic resin)	"	-	-	-	-	461	239
Dismantled of railroad equipment	Wagons	-	-	22	4	4	1
Repair for rail- road equipment & trucks	"	12	11	19	24	28	29
Ventilator for railroad & others	Sets	-	-	269	265	-	-
Repair of trans- former	"	-	-	11	3	14	14
Spindle motors	"	-	-	210	532	718	554
Repair of switch	"	-	-	-	2	-	-



SHIGA MILITARY GOVERNMENT TEAM  
APO 25 (Otsu, Honshu)File: Shiga # 2529 July 1946SUBJECT: Permit to ManufactureTO: Toyo Rayon Co., Shiga Factory  
(Name and Address of Firm)46 Ishiyama Kitaoji-cho, Otsu City

1. a. In accord with paragraph 3, b, Directive Number Three (3) from the Supreme Commander to the Japanese Imperial Government, dated 22 September 1945, the Toyo Rayon Co.

(Name of Firm)

is permitted to immediately start production of a. rayon yarn b. staple  
(Name of Items)

c. synthetic resin d. sulphuric acid e. textile machines f. repair of  
railroad equipment g. ventilators h. flanges i. gear cases j. rice hackles  
k. hoes l. lead plates m. lead pipes n. lead sinkers o. lead fuse p. thianthol  
q. calcium sulphides r. magnesium sulphate s. aluminum sulphate. Accessories  
of Rayon Spinning Machines. Accessories and fittings for rayon production.

b. Maximum production currently authorized is monthly, a b c d e  
f as previously authorized. g. 500 h. 500 i. 300 j. 300 sets k. 1,000  
l. 15 tons m. 10 tons n. one half ton o. one-twentieth of a ton p. one ton  
q. 20 tons r. 2 tons s. one-half ton.

2. The acquisition of material, parts and sub-assemblies as well as the disposition of finished products, and the establishment of sales prices will be in accord with the regulations of the Imperial Japanese Government.

3. Until otherwise directed by this headquarters, a monthly report in English of each item, by name, type and quantity produced by each factory, sub-contractor subsidiary within this factory's control will be delivered to this office by the fifteenth (15) day of the following month.

4. It is understood that this permit for reconversion is issued subject to any all directives affecting reconversion, ultimate disposition or otherwise, which have been issued or may hereafter be issued by the Supreme Commander for the Allied Powers or by this Headquarters.

## DISTRIBUTION

CG, I Corps (Attn: Mil Gov't) (1)  
Shiga Ken Liaison Office (1)  
Governor of Prefecture concerned (1)  
Firm Concerned (1)  
File (1)

ERNEST E. BRUBAKER  
Major, Signal Corps  
Commanding.



June 17th, 1946

APPLICATION FOR THE PERMISSION FOR SUPPLEMENTARY  
PRODUCTION OF ESSENTIAL CIVILIAN COMMODITIES

To : The Commander of the 1st Army-Corps  
(Through Shiga-ken)

From : Y. Hara, Director of Toyo Rayon Co.  
46 Ishiyama Kitaojicho, Otsu, Shiga-ken

- (1) Name of Factory : Toyo Rayon Co., Shiga Factory
- (2) Location : 46 Ishiyama Kitaojicho, Otsu, Shigaken
- (3) Capital : ¥ 35,375,000.00
- (4) Previous Permission : Following Articles were permitted by  
the commander of the 6th Army Corps,  
APO 442, File MG 153, dated Nov.30, '45.
- (a) Rayon Yarn
  - (b) Staple fibre
  - (c) Synthetic resin
  - (d) Sulphuric acid
  - (e) Textile m/cs & accessories
  - (f) Accessories and fittings for rayon  
production
  - (g) Repair of railroad equipment & trucks
- (5) Names & numbers of the supplement application for the future  
additional productions

Articles	Units	Monthly Production
a) Parts of Railroad wagons		
Ventilators	pcs.	500
Flanges	"	500
Gear cases	"	300



Articles	(2)	Units	Monthly Production
<b>b) Agricultural tools &amp; machines</b>			
Rice-hackles		sets	300
Hoes & Mattocks		pcs.	1,000
<b>c) Lead-works</b>			
Plates		Tons	15
Pipes & Tubes		"	10
Sinkers (for fishing)		"	0.5
Fuse		"	0.05
Accessories of Rayon Spinning Machines		"	2.5
<b>d) Drugs for Medical Treatment</b>			
Thianthol		Tons	1
Calcium sulphides		"	20
Magnesium sulphate		"	2
Aluminium sulphate		"	0.5

**(6) Reason of Supplemental production :-****(a) Parts of Railroad Wagons**

Our repairing works of the railroad wagons are gradually increased. Consequently it is necessary for us to produce and supply the parts of the railroad wagons by ourselves for the purpose of the repairing works.

**(b) Agricultural tools and machineries**

Agricultural tools and machineries in Shiga-ken are very short. Therefore we wish to produce and supply the same as soon as possible.

**(c) Lead Works**

Our holding machines and techniques being permitted for the repairing of our rayon machines are also to be used for the lead works.

Consequently we wish to produce and supply the splendid lead goods to the market.



(3)

(d) Drugs for medical treatment

Our chemical and scientific techniques to be used for the purpose of producing drugs.

(7) Number of Employees (On May 1st, 1946)

	Staffs	Workers	Total
Male	664	2,554	3,218
Female	148	772	920
Total	812	3,326	4,138

(8) Holding materials & future necessary materials

Products expected Name of articles	Monthly Prod'n.	Principal raw materials								
		Name	Holding	Future necessary materials/ month						
<b>(a) Parts of railroad wagons</b>										
Ventilators	500 pcs.	Steel material	12 tons	2.4 Tons						
Flanges	500 "	"	1 ton	0.3 ton						
Gear cases	300 "	"	2 tons	0.7 "						
<b>(b) Agricultural tools &amp; <del>material</del> machines</b>										
Rice-hackles	30 sets	( Steel material	0.7 ton	0.23 ton						
		(Lumber now in provision		420 (Koku)						
Hoes & mattocks	1,000 pcs	( Steel material	3 tons	0.6 ton						
		(Lumber now in provision		20 (Koku)						
<b>(c) Lead works</b>										
Plates	15 tons	} Lead scrap } 61 } tons	}	16.5 tons						
Pipes & tubes	10 "			}	}	11.0 "				
Sinkers (for fishing)	0.5 ton					}	}	0.55 ton		
Fuse	0.05 "							}	}	0.055 "
Accessories of Rayon Sp. M/cs	2.5 "									}



(4)

d) Drugs for medical treatment

Thienthol	1 ton	(Toluol	5 tons	2 tons
		(Sulphur	2 "	0.9 ton
		(Aluminium oxide	10 "	0.2 "
Calcium sulphides	20 tons	(Quick lime	20 "	2 tons
		(Sulphur	8 "	4 "
Magnesium sulphate	2 "	Crude magnesium sulphate	10 "	2.8 "
Aluminium sulphate	0.5 ton	Crude aluminium sulphate	8 "	1.5 "

(9) Certification by applicant

I certify that the information contained herewith is true to the best of my knowledge and belief.

TOYO RAYON CO.

*J. Hara*  
DIRECTOR



HEADQUARTERS  
SHIGA MILITARY GOVERNMENT TEAM  
APO 25 (Otsu, Honshu)

29 July 1946

SUBJECT: Permit to Manufacture, Toyo Rayon Co.

TO: Shiga Ken Liaison Office.

1. Permit M.G. 153, Headquarters Sixth Army, dated 30 November 1945 issued to Toyo Rayon Co., Shiga Factory is hereby cancelled and permit Shiga No.25 issued to supersede it.

2. Copies of permit Shiga No.25 are forwarded herewith for distribution.

3. Attention is directed to the reports required by paragraph 3 of the permit.

ERNEST E. BRUBAKER  
Major, Signal Corps  
Commanding



HEADQUARTERS  
SHIGA MILITARY GOVERNMENT TEAM  
APO 25 (Otsu, Honshu)

29 July 1946

**SUBJECT:** Permit to Manufacture. Toyo Rayon Co.

**TO:** Commanding General, I Corps, APO 301 (Kyoto, Honshu)  
(Attention: Military Government Section)

1. A copy of permit Shiga # 25 issued to the Toyo Rayon Co., Shiga Factory, 46 Ishiyama Kitaoji-cho, Otsu, Shiga Ken is forwarded for your information.

2. This supersedes permit MG 153, Headquarters Sixth Army, 30 November 1945 which has been cancelled.

3 Incls:

- ERNEST E. BRUBAKER**  
Major, Signal Corps
1. Permit Shiga # 25
  2. Permit MG 153 and annex. Commanding
  3. Application to Manufacture.



HEADQUARTERS SIXTH ARMY  
Military Government Section

File: MG 153APO 442  
Date: 30 November 1945SUBJECT: Permit for Reconversion from War Production and for Resumption  
of Production of Essential Civilian Commodities.TO : Toyo Rayon Kaisha, Ltd., Shiga factory.  
(Name & Address of Firm)46, Ishiyama Kitaoji-cho, Otsu, Shigakan

1. In accordance with the provisions of paragraphs 3 a and 3 b of Directive No. 3 from the Supreme Commander for the Allied Powers, dated 22 September 1945; Memorandum for the Imperial Japanese Government, Subject: Reconversion of War Production Plants to Peacetime Production, dated 28 October 1945; and under authority granted this Headquarters by CINCPAC Radio ZAX 6197 dated 3 October 1945, you are authorized to commence operation of your plant, and to manufacture the essential civilian commodities listed in Annex No. 1 to this permit.

2. This permit grants authority only to operate. The acquisition of materials, parts, and sub-assemblies, as well as the disposition of finished products and establishment of sales prices, will be in accord with the regulations of the Imperial Japanese Government.

3. At the end of the first month of operation, and at the end of each three-month period thereafter, until notified to the contrary by this Headquarters a report will be made to the Commanding General I Corps, Headquarters Otsu, Attention: Military Government Section. This report will be written in English and will list each item, by name, type, and quantity produced by each factory, subsidiary, or sub-contractor operating under the provisions of this permit. This report will be delivered to Corps Headquarters not later than fifteen (15) days after the conclusion of the period to which the report pertains.

GEORGE D. SEARS  
Colonel, Infantry  
Military Government Officer

Info Copies To:

GHQ, SCAP ( Attn: E. & S. Sec )  
CG I Corps, (Attn: MG Sec.)  
Imperial Japanese Gov't  
(6th Army Jap. Liaison Office, Kyoto)

1 Incl:  
Annex No. 1

LIAISON



HEADQUARTERS SIXTH ARMY  
Military Government Section  
APO 442

30 November 1945

ANNEX NO. 1

Permission is granted to Toyo Rayon Kaisha, Ltd., Shiga Factory, 46, Ishiyama Kitaoji-cho, Otsu, Shigaken to produce the following items listed below:

- a. Textile machines and accessories.
- b. Accessories and fittings for rayon production.
- c. Rayon yarn.
- d. Staple fibre.
- e. Sulphuric acid.
- f. Synthetic resin.
- g. Repair of railroad equipment and trucks.

- - - - -  
(Nothing Follows)

D. S. LOCKIE  
1st Lt. F. D.



HEADQUARTERS I CORPS  
APO 301 (Osaka, Honshu)

GMP/mw.

AG 319.1 - BA

7 December 1945.

SUBJECT: Report of Resumption of Production of Essential  
Civilian Commodities.

TO : Toyo Rayon Kaisha, Ltd., Shiga Factory.  
46, Ishiyama Kitaoji-cho, Otsu, Shigaken.

1. Under date 30 November , a permit was issued to you by the  
Sixth Army to produce in your plant at \_\_\_\_\_  
Otsu, Shigaken.

the following items specified in annex No. 1 to that permit:

- a. Textile machines and accessories.
- b. Accessories and fittings for rayon production.
- c. Rayon yarn.
- d. Staple fibre.
- e. Sulphuric acid.
- f. Synthetic resin.
- g. Repair of railroad equipment and trucks.

2. Whenever production has begun on any one of the permitted items, you will immediately report in triplicate the date on which such production began. The report will be furnished to the Commanding General, Headquarters I Corps, attention: Military Government Section.

BY COMMAND OF MAJOR GENERAL WOODRUFF:

*W. A. Sweeten*

W.A. SWEETEN.  
Lt. Colonel, AGD.  
Asst. Adj. Gen.

Info copies:  
MGO, 33 Inf Div (1)



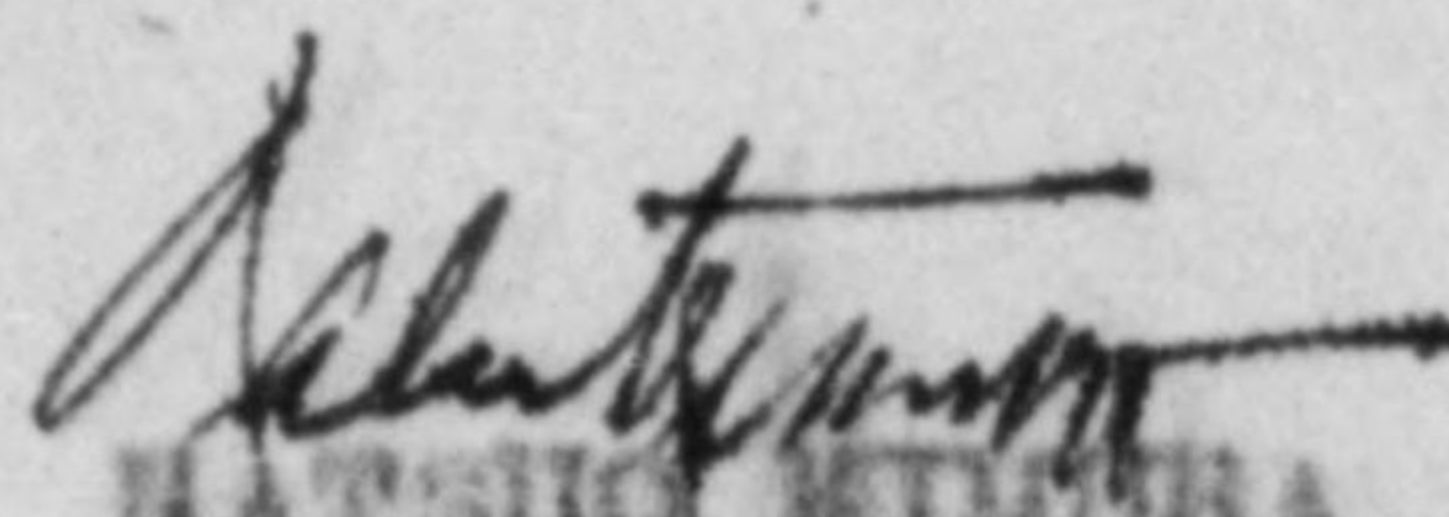
LIST OF ADDITIONAL ITEMS  
from Toyo Rayon Co. Ltd.

Articles	Units	Monthly Production
a) Parts of Railroad wagons		
Ventilators	pcs.	500
Flanges	"	500
Gear cases	"	300
b) Agricultural tools & machines		
Rice-hackles	sets	300
Hoes & Mattocks	pcs.	1,000
c) Lead-works		
Plates	tons	15
Pipes & Tubes	"	10
Sinkers (for fishing)	"	0.5
Fuse	"	0.05
Accessories of Rayon Spinning Machines	"	2.5
d) Drugs for Medical Treatment		
Thianthol	tons	1
Calcium sulphides	"	20
Magnesium sulphate	"	2
Aluminium sulphate	"	0.5



CERTIFICATE

THIS IS TO CERTIFY THAT the production of additional items are necessary for the maintenance of the present Japanese economy as mentioned in the attached application.



HATSUC KIMURA  
Liaison Officer in  
Shige Ken Liaison Office



PRODUCTION SINCE PERMISSION WAS GRANTED  
(Dec., 1945 - May, 1946)

<u>Name of articles</u>	<u>Unit</u>	<u>Dec., 1945</u>	<u>Jan., 1946</u>	<u>Feb., 1946</u>	<u>March 1946</u>	<u>April, 1946</u>	<u>May, 1946</u>
Rayon Yarn	lbs	60,900	-	-	20,100	91,300	132,130
Rayon Staple F.	"	-	-	-	-	-	-
Sulphuric Acid (100%)	Kgs.	747,850	136,034	455,493	-	-	94,021
Synthetic Resin	"	-	396	-	-	-	20
Fishing gut (Made of synthetic resin)	"	-	-	-	-	461	239
Dismantled of railroad equipment	Wagons	-	-	22	4	4	1
Repair for railroad equipment & trucks	"	12	11	19	24	28	29
Ventilator for railroad & others	Sets	-	-	269	265	-	-
Repair of transformer	"	-	-	11	3	14	14
Spindle motor	"	-	-	210	532	718	554
Repair of switch	"	-	-	-	2	-	-



SHIGA MILITARY GOVERNMENT TEAM  
APO 25 (Otsu, Honshu)

24 July 1946

SUBJECT: Permit to Manufacture Additional Items, Toyo Rayon Co.

TO: Shiga Ken Liaison Office

1. The Toyo Rayon Co., Shiga Factory, 46 Ishiyama Kitaojicho, Otsu, Shiga Ken is operating under permit MG-153 Headquarters Sixth Army, dated 30 November 1945. This company has applied for a permit to manufacture additional items.

2. It is requested that all copies of the present permit be returned to this headquarters for cancellation, at which time a new permit will be issued to include the additional items.

ERNEST E. BRUBAKER  
Major, Single Corps  
Commanding



MEMORANDUM FROM TOYO RAYON CO., LTD.

March 9th, 1946

To Lieutenant F. Prager

Subject : Sulphuric Acid Plants.

For the exclusive purpose of self-supplying sulphuric acid in connection with the production of rayon, two plants were installed in the compound of Shiga Factory; the first plant of "Petersen" chamber process was erected in Sept., 1934 and the second plant of "Monsanto" contact process in Oct., 1937, each plant with a nominal capacity of 50 tons/day of 100% Sulphuric Acid. (actual capacity is about 30 tons each).

Through deterioration by age along with the lack of proper care and repair during war-time, the productive capacity of both plants has greatly reduced, and at present average 40 tons can only be produced daily, approximately 15 tons by "Petersen" and 25 tons by "Monsanto."

On the other hand, the consumption of sulphuric acid in Shiga Factory will be 40 tons or more; 25 to 30 tons per day for the production of rayon, 10 tons for synthetic resin of polyamide group and a few tons for manufacturing vita-yeast (for nutrition) and saccharine; the production of these last two is now under contemplation.

Thus, if the "Monsanto" plant be made an object of reparation, 600 to 750 tons of sulphuric acid will have to be brought from outside. Moreover, in the manufacture of synthetic resin and saccharine, concentrated acid made with "Monsanto" process is inevitably used.

*monthly.*

Toyo Rayon Co.  
*F. Hara*  
Director



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March 9th, 1946

To Lieutenant F. Prager

Subject : Sulphuric Acid Plants

For the exclusive purpose of self-supplying sulphuric acid in connection with the production of rayon, two plants were installed in the compound of Shiga Factory; the first plant of "Petersen" chamber process was erected in Sept., 1934 and the second plant of "Monsanto" contact process in Oct., 1937, each plant with a nominal capacity of 50 tons/day of 100% Sulphuric Acid. (actual capacity is about 30 tons each).

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Thus, if the "Monsanto" plant be made an object of reparation, 600 to 750 tons of sulphuric acid will have to be brought from outside. Moreover, in the manufacture of synthetic resin and saccharine, concentrated acid made with "Monsanto" process is inevitably used.

*monthly*

Toyo Rayon Co.  
Y. Haru  
Director



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March 9th, 1946

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→monthly.

Toyo Rayon Co.  
Y. Waga  
Director



March 7th, 1946

TOYO RAYON KAISHA, LTD. - SHIGA FACTORYLocation :- 46, Ishiyama Kitaoji-cho, Otsu, Shiga-kenProducts :-

- (1) Rayon Yarn and Staple Fibre (Viscose process)
- (2) Spinning pumps, pot motors for the production of rayon, power looms, yarn twister, textile equipments, repair works of rolling-stock, transformers.
- (3) Synthetic resin of polyamide group (trade name "Amilan"), of which fishing guts and insulation material for electrical use are made.
- (4) Sulphuric acid for the production of rayon and synthetic resin (consumed in the same compound)
- (5) Lead tubes and plates (mostly used in rayon machinery)

General description of machinery & plant :-

## (A) For General Purposes

(Manufacturing Rayon Yarn, Staple Fibre, Synthetic Resin, etc.)

## I Power Generation

## (1) Boiler House (Power Generation &amp; Heating)

10 sets - Babcock &amp; Willcox type Boilers

1 set - Lancashire type Boiler

1 set - Multitube type Boiler

Total Evaporation about 210 tons/hr.

## (2) Power House

1 set - 2,000 KW Turbo-Alternator (Straight condensing type) made by British Thomson Houston Co.

1 set - 5,000 KW Turbo-Alternator (Extraction type made by Ishikawajima Turbine Co.

1 set - 7,000 KW Turbo-Alternator



-2-

## II Reception &amp; Distribution of Electric Current

## (1) Transformers

## (a) In the main substation

- 4 sets - 500 KVA Transformer (For 700 KVA cycle changer)
- 4 " - 300 KVA " (For 2nd & 3rd Production Dept.)
- 4 " - 100 KVA " (For Lighting in 2nd & 3rd Production Dept.)

## (b) In the substation for 1st Mill

- 7 sets - 500 KVA Transformers (For Power)
- 4 " - 300 KVA " ( " )
- 4 " - 150 KVA " (For Lighting)

## (c) In the substation for 2nd Mill

- 7 sets - 300 KVA Transformer (For Power)
- 1 set - 200 KVA " ( " )
- 4 sets - 100 KVA " (For Lighting)

## (2) Main Substation

The cycle changers (For manufacturing Rayon & Staple Fibre)

- 4 sets - 1,000 KVA cycle changer
- 3 " - 800 KVA
- 3 " - 700 KVA

## Receiving Capacity for Electric Current

In the substation 5,000 KW.

In the main switch house 3,000 "

Total: 8,000 "

## III Water Supply

7 sets - Centrifugal Pumps

2 " - Reservoirs (Capacity 1,200,000 cubic ft. in )  
total



-3-

4 sets - Filtering Beds (Capacity 400,000 cub.ft.in total)  
2 " - Cleaning Bed ( " 160,000 " " )  
Total Capacity about 40,000,000 US gallons/day

## IV Machine Shop for Repair Work

49 sets - Lathes  
3 " - Vertical Shapers  
3 " - Shapers  
7 " - Milling Machines  
1 set - Cutting Machine  
6 sets - Boring Machines  
12 sets - Grinders  
2 sets - Lathes for wood  
1 set - Screw Cutting Machine

## (b) Foundry Shop

1 set - Cupola Furnace (Capacity 1 ton/day)

## (c) Refrigerating Machines

27 sets - Refrigerating Machines with its accessories

Total capacity 2,280 Refrigeration Tons

(in which 13 sets to be mended)

## (d) Air Compressors

20 sets - Air Compressors

## (e) Vacuum Pumps

13 sets - Vacuum Pumps

## (B) For manufacturing Rayon Yarn &amp; Staple Fibre.

## I Machines for Production proper.

46 sets - Steeping Presses

41 " - Milling Machines



- 54 sets - Kneading Machines
- 209 " - Spinning Machines
  - where 188 sets for Rayon
  - 21 sets for Staple Fibre
- 16 sets - Bleaching Machines
  - where 7 sets for Rayon
  - 9 sets for Staple Fibre
- 23 sets - Drying Machines
  - where 14 sets for Rayon
  - 9 sets for Staple Fibre

X Registered Capacity (Tons/day)

	Rayon	Staple Fibre	Total
1st Mill	29,274	-	29,274
2nd Mill	16,866	32,344	49,210
Total:	46,140	32,344	78,484

II Auxiliaries

(a) Humidifiers

8 sets - Humidifiers

(Controlling the temperature & the humidity)

(b) Acid Recovery Plant

Evaporators, Crystallizers, Centrifuge, etc.

(c) Soda Recovery Plants

(C) Machine Tools and Equipments for manufacturing Fibre machinery accessories (Such as Spinning Pumps, Spinning Motor parts) power looms, yarn twisting machine, etc. and for repair works of rolling-stock and transformers.



-6-

## (1) Machine Tools

194 sets - Lathes  
48 " - Milling Machines  
24 " - Shapers  
9 " - Vertical Shapers  
4 " - Planers  
59 " - Boring Machines  
1 set - Jig Borer  
5 sets - Drilling Machines  
23 " - Grinder  
6 " - Gear Cutting Machines  
1 set - Brouching Machine  
2 sets - Metal Saws  
2 " - High Speed Cutting Machines

## (2) Equipments for Plumber's Shop

1 set - Air Hammer  
2 sets - Hydraulic Presses  
2 " - Shearing Machines  
2 " - Bending Rollers  
4 " - Air Compressors

## (3) Other Equipments

1 set - Chrome Gilding Plant  
1 " - Electric Gilding Plant

## (4) Electrical Equipment

1 set - Electric Furnace  
6 sets - Transformers



-7-

## (D) Machinery &amp; Plant for Producing Synthetic Resin of Polyamide group.

(1) Pilot Plant Capacity 100 pounds/day

(2) Industrial Plant " 1 ton/day

## (E) Machinery &amp; Plant for Producing Sulphuric Acid

(1) Petersen Process :- 30 tons/day (nominal capacity-)

50 tons

(2) Monsanto Process :- 30 tons/day ( " " )

50 tons

## (F) Lead Tube &amp; Plate Mill

Capacity 2 tons/day each

Lead tubes and plates are used in the manufacture of Rayon Yarn & Staple Fibre.

X N.B. "Registered capacity" means the productive capacity of rayon plants, originally registered with the Rayon Association, and must be regarded as nominal. The actual plant capacity at present is 700,000 lbs-1,000,000 lbs of Rayon Yarn and 300,000 lbs of Staple Fibre per month. This can be increased to about 1,700,000 lbs of rayon yarn per month by March, next, when repair and replacement work on machinery will be completed.

----- oOo -----



46 Lshiyama Kitaoji-cho  
Otsu Shigaken  
Feb 20th 1946

Lt. ~~F.~~ Prager

Dear Sir

We beg to inform to you that the details of our  
Production and consumption of Sulphuric Acid(100%) in  
Dec. 1945 & Jan.1946 are as follows.

	Production (100%) ton	Self consumption ton	Shipped for outsider ton	Shipping details for outsider ton
December 1945	747.647	53.715	247.750	Toyo Boseki K.K. (Tsuruga Factory) 97.905 Nippon Kogyo K.K. (Toyama Factory) 142.078 Kyoritsu Noyaku K.K. (Moriyama Factory) 1.103 Nippon Denchi K.K. (Kyoto Factory) 6.664 Total 247.750
January 1946	136.034	32.530	256.402	Nippon Kogyo K.K. (Toyama Factory) 62.248 Toyo Boseki K.K. (Tsuruga Factory) 157.977 Nippon Boseki K.K. (Nishi Ogaki Factory) 13.135 Nippon Denchi K.K. (Kyoto Factory) 3.270 Daiichi Kogyo K.K. (Kyoto Factory) 13.170 Yuasa Denchi K.K. (Takatsuki Factory) 6.602 Total 256.402

TOYO RAYON KAISHA, Ltd.

*J. Hama*  
DIRECTOR



February 4th, 1946

RAYON FILAMENT YARN & STAPLE FIBRE INDUSTRYI. RAYON YARN

(A) Production capacity of Rayon Yarn in pre-war years was greatly reduced during the war-time, as noted below :-

	<u>No. of plant</u>	<u>Production in tons of 1000 Kgs.</u>	<u>Daily Capacity in pounds</u>
(1) Plants existing in pre-war time	31	799	1,763,000
(2) Plants completely closed down	25	519	1,144,000
(3) Plants partly closed down	--	92	203,000
(4) Plants surviving	6	188	416,000

Equipments proper for manufacturing rayon yarn in (2) and (3) plants were mostly scrapped under the government direction and shipped to steel works.

Capacity noted above is the so-called "registered capacity" and must be regarded as nominal.

(B) Production capacity of Rayon Yarn with present workable equipment is estimated as approximately 5,300,000 lbs per month; this can be increased to 8,600,000 lbs (per month) in about 6 months, and probably to 12,000,000 lbs (per month) by March, 1947, when repair work, replacement



(2)

and various fitting up will be completed.

Thus, production of about 57,000,000 lbs for this year, and 140,000,000 lbs for 1947 can be expected in relation to the plant capacity.

(C) Home consumption of Rayon Yarn can be surmised from the statistics of the production and export in the 3 years, 1935-1937, when rayon production in Japan had the highest record.

Production 1935-1937	273,296,000 lbs	average
Export 1935-1937 (in yarn & fabrics)	104,055,000 lbs	annually
Home consumption 1935-1937	169,241,000 lbs	"

As this last figure includes roughly 50,000,000 lbs of yarns used for miscellaneous goods exported, the actual home consumption might be taken as 100,000,000 lbs annually.

However, in consideration of the fact that silk will not be available for home use and of shortage of fibre goods caused by war, it is reasonable to estimate the home consumption at present and in immediate future as being 150,000,000 lbs annually.



(3)

(D) Raw Materials, Chemicals, etc. required  
for the production of Rayon Yarn, in 1946 & 1947.

	per 100 lbs of Rayon	For Rayon 57,000,000 lbs (April-Dec., 1946)	For Rayon 140,000,000 lbs (1947)
(1) Pulp	120	68,400,000 lbs (30,531 tons)	168,000,000 lbs (75,000 tons)
(2) Caustic Soda	80	45,600,000 lbs (20,357 tons)	112,000,000 lbs (50,000 tons)
(3) Salt for above	188	104,850,000 lbs (46,808 tons)	263,200,000 lbs (117,500 tons)
(4) Carbon Bisulphide	35	19,950,000 lbs (8,106 tons)	49,000,000 lbs (21,875 tons)
(5) Sulphuric acid 100 %	120	68,400,000 lbs (30,531 tons)	168,000,000 lbs (75,000 tons)
(6) Coal	800	456,000,000 lbs (203,571 tons)	1,120,000,000 lbs (500,000 tons)
(7) Electric Power	3	171,000,000 K.W.H. (20,300 K.W.)	420,000,000 K.W.H. (50,000 K.W.)

## II. STAPLE FIBRE

(A') Reduction in the production capacity of  
Staple Fibre followed the same course as that of Rayon Yarn.



(4)

	No. of Plant	Daily	
		Production in tone of 1000 Kgs.	Capacity in pounds
(1) Plants in pre-war time	42	1,229	2,703,800
(2) Plants completely closed down	28	638	1,403,600
(3) Plants partly closed down	--	147	323,400
(4) Plants surviving	14	444	976,800

Equipments in (2) and (3) plants were disposed of in the same manner as in Rayon Yarn plants.

Capacity noted above is the so-called "registered capacity" and must be regarded as nominal.

(B') Production capacity of Staple Fibre with present workable equipment is estimated as approximately 8,600,000 lbs/month; this can be increased to 12,000,000 lbs/month in about 6 months, and, if necessary to about 16,000,000 - 18,000,000 lbs/month or possibly more.

(C') Home consumption of Staple Fibre depends largely upon the import of cotton and it is rather difficult to determine the figure at least for the moment. Considering, however, the field in which Staple Fibre can be utilized to



(5)

advantage, it is assumed that approximately 100,000,000 lbs will be consumed annually at home and possibly abroad.

(B') Raw Materials and Chemicals, etc. required for the production of Staple Fibre :-

	Per 100 lbs of S.F.	For Staple Fibre Production 80,000,000 lbs (April-Dec., 1946)	For Staple Fibre Production 120,000,000 lbs (1947)
(1) Pulp	120	96,000,000 lbs (42,857 tons)	144,000,000 lbs (67,672 tons)
(2) Caustic Soda	80	64,000,000 lbs (28,571 tons)	96,000,000 lbs (42,857 tons)
(3) Salt for above	188	150,400,000 lbs (67,143 tons)	225,600,000 lbs (100,715 tons)
(4) Carbon Bisulphide	35	28,000,000 lbs (12,500 tons)	42,000,000 lbs (18,750 tons)
(5) Sulphuric Acid	120	96,000,000 lbs (42,857 tons)	144,000,000 lbs (67,672 tons)
(6) Coal	800	640,000,000 lbs (285,710 tons)	960,000,000 lbs (428,570 tons)
(7) Electric Power	1.5	120,000,000 K.W.H. (14,400 K.W.)	180,000,000 K.W.H. (21,600 K.W.)